WHAT IS CLAIMED IS:

1. A method of transmitting data, comprising the steps of:

(a) performing predetermined processing on transmission data on a frequency axis such that a zero signal and/or an inverted signal is inserted between transmission signals of the transmission data on a time axis; and

(b) transforming the transmission data processed in the step (a) into a time-axis signal.

2. The method according to claim 1, wherein the step (a) comprises the step (c) of performing the predetermined processing on the transmission data on the frequency axis such that the inverted signal and at least one zero signal point are inserted between the transmission signals on the time axis.

3. The method according to claim 1, wherein the step (a) comprises the step (d) of copying the transmission data on the frequency axis, and

the step (b) comprises the step (e) of processing the transmission data and the copied transmission data in parallel.

4. The method according to claim 1, wherein the step (a) comprises the step (f) of performing the predetermined processing on the transmission data such that the transmission signal of the transmission data is delayed by a predetermined time, and the delayed transmission signal is subtracted from the transmission signal.

5. The method according to claim 4, further comprising the step (g) of decreasing a roll-off rate of frequency characteristics in the processing of the step (f).

6. The method according to claim 5, wherein in the frequency characteristics, a band width is about 25 MHz, and the decreased roll-off rate is about 20 %.

7. The method according to claim 1, wherein the step (b) comprises the step (h) of transforming the transmission data processed in the step (a) into the time-axis signal by using inverse fast Fourier transform processing.

8. The method according to claim 3, wherein the step (b) comprises the step (h) of transforming the transmission data processed in the step (a) into the time-axis signal by using inverse fast Fourier transform processing,

and the step (d) comprises the step (i) of determining a first number of points that are assigned to the transmission data such that data of both the transmission data and the copied transmission data correspond to a second number of points that is a number of carriers used in the inverse fast Fourier transform processing.

9. The method according to claim 3, wherein the step (d) comprises the step (j) of adjusting a number of times of copying the transmission data, the number of times of copying being a number of times of generating transmission data by copying the transmission data.

10. The method according to claim 3, wherein the step (d) comprises the step (k) of assigning frequency bands each having a substantially same width to the transmission data and the copied transmission data, respectively.

11. A data transmission device, comprising:

frequency-axis processing means for performing predetermined processing on transmission data on a frequency axis such that a zero signal and/or an inverted signal is inserted between transmission signals of the transmission data on a time axis; and

time-axis transform means for transforming the transmission data processed by the frequency-axis processing means into a time-axis signal.

12. The data transmission device according to claim 11, wherein the frequency-axis processing means perform the predetermined processing on the transmission data on the frequency axis such that the inverted signal and at least one zero signal point are inserted between the transmission signals of the transmission data on the time axis.

13. The data transmission device according to claim 11, wherein the frequency-axis processing means comprise copying means for copying the transmission data on the frequency axis, and

the time-axis transform means process the transmission data and the copied transmission data in parallel.

14. The data transmission device according to claim 11, wherein the frequency-axis processing means comprise delay finite-difference means for delaying the transmission signal, and subtracting the delayed transmission signal from the transmission signal.

15. The data transmission device according to claim 14, wherein the delay finite-difference means use a decreased roll-off rate in frequency characteristics of the frequency-axis processing means.

16. The data transmission device according to claim 15, wherein in the frequency characteristics, a band width is about 25 MHz, and the decreased roll-off rate is about 20 %.

17. The data transmission device according to claim 11, wherein the time-axis transform means transform the transmission data processed by the frequency-axis processing means into the time-axis signal by using inverse fast Fourier transform processing.

18. The data transmission device according to claim 13, wherein the time-axis transform means transform the transmission data processed by the frequency-axis processing means into the time-axis signal by using inverse fast Fourier transform processing, and

the copying means determine a first number of points that are assigned to the transmission data such that data of both the transmission data and the copied transmission data correspond to a second number of points that is a number of carriers used in the inverse fast Fourier transform processing.

19. The data transmission device according to claim 13, wherein the copying means adjust a number of copies of the transmission data generated by the copying means.

20. The data transmission device according to claim 13, wherein the copying means assign frequency bands each having a substantially same width to the transmission data and the copied transmission data, respectively.